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Section I

IN THIS ISSUE

The Development of Cost Accounting in Europe, by Alphonse Perren 1059

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EDITORIAL DEPARTMENT NOTE

In the past the industrial accountants of this country as a group have been little concerned with the progress of cost accounting in other countries. Satisfied with their own methods and the progress being made in the field, they have paid little attention to developments outside our boundaries. As a result they have not appreciated fully the relation of cost accounting to the economic system of a country, or the trends in cost accounting practice in Europe which have resulted from the war and the economic changes which preceded it. The increased participation of this country in world affairs in the era following the war will undoubtedly result in a lessening of this self-satisfaction and an increasing interest in cost accounting progress in other countries. The article in this issue of the *Bulletin* may well serve as a background and starting point for this new interest in cost accounting developments in other countries.

The author of this article is especially well qualified to discuss European cost accounting methods. He holds the Doctor's degree in economics and commercial science from the University of Neuchatel, Switzerland, and was at one time Professor of Banking and Finance at that institution. Prior to the war he served as Vice President of the Swiss Banking Commission (the Swiss "Federal Reserve Board") and since 1939 has been connected with the Nestlé-Unilac group in Switzerland and this country as Officer in charge of Finance. Dr. Perren is the author of several books, one of which deals with the history of the American accounting profession, while another deals with American incentive plans. Dr. Perren is a member of our Greenwich Chapter and is presently serving that Chapter as Director of Publications.

Articles published in the Bulletin present many different viewpoints. In publishing them the Association is not sponsoring the view expressed, but is endeavoring to provide for its members material which will be helpful and stimulating. Constructive comments are welcomed and will be published in the Forum Section of the *Bulletin*.

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NATIONAL ASSOCIATION OF
COST ACCOUNTANTS

JUNE 1, 1944

THE DEVELOPMENT OF COST ACCOUNTING IN EUROPE

By Alphonse Perren,
Nestlé-Unilac, Stamford, Conn.

Historical Introduction

COST accounting is probably as old as financial accounting. Its origin harks back to the first forms of social life. The great trading people of antiquity, the Chinese, the Egyptians, the Phoenicians, and the Arabs had accountants in the service of the royal courts, some of whom specialized in the determination of costs. In Egypt[1], 3,000 years before Christ, these accountants had to present to the Pharaohs each year a detailed report on the net cost of the harvest, so that "just taxes" on wheat could be levied. The ancient Code of Manu[2] made obligatory the periodical auditing of trading profits by court auditors, called Kayasthas, a caste still in existence today in the province of Bengal, India. These audits were made for fiscal reasons and for the purpose of regulating the sales price of essential agricultural products and other manufactured or imported commodities. In Books VII and VIII of these sacred Laws we find the following two passages: "Merchandising experts will establish the sales price of goods, so that the king may levy 1/20 of the profit thereon" . . . "the sales price of merchandise shall be evaluated according to the distance it has traveled, the time it is kept in storage, the expenses connected with it, the time it has to travel to reach its final destination, and the profit that can be anticipated."

Other instances of primitive forms of cost-keeping could be cited, but in antiquity, as well as under the Greek and Roman Empires, the main purpose of the estimation of costs was to create a basis for taxes, and the work was always carried out by salaried court officials. It was not until the 9th century that independent public accountants, called "rationari," made their appearance in Italy. Their field of activity included the appraisal of maritime cargoes, and documents preserved in the commercial museums of Milan and Genoa, dating from the early Middle Ages, show that these accountants had developed a regular system of estimating

[1] Breasted: History of Humanity.
[2] A compilation of laws reflecting Hindu thought in the Buddhistic period (translation by Bühler in "The Sacred Books of the East").

costs, their standards being recognized by the courts as well as by the Treasury.

Early Cost Accounting

In an interesting article which appeared in the *Accounting Review* of September, 1937, Florence Edler presents further documented proof that cost accounting was used in Italy at the beginning of the 14th century by the famous de Medicis and others. That was one hundred years before the Franciscan monk, Luca Pacioli, invented the double-entry bookkeeping system. In Belgium, Raymond de Roover, writing in the 16th century, mentions the bookkeeping system of a Frenchman, Christopher Planter, who operated a printing shop in Antwerp in 1555. Among other things he describes the perpetual inventory and the plant ledger of this printer. In France, at the beginning of the 19th century, two accounting experts, Cozaux and Godard, made valuable contributions to the literature of cost accounting. Cozaux advocated double entry for the internal movement of materials; Godard explained process costing.

The industrial revolution gave a real impetus to the growth of cost accounting, but progress in machine technology was much more rapid than progress in cost accounting. From this period, nevertheless, came three notable English books dealing with cost accounting by Garke and Fels, George P. Norton, and J. S. Lewis.

Beginnings in This Country

However, if we find some forerunners of our profession in Europe, costing generally, and standard costing and budgetary control in particular owe probably more to America than to all other countries of the world combined. The most important early book in the United States was Nicholson's "Factory Organization and Costs," later revised and re-edited by John Rohrbach under the name of "Cost Accounting Theory and Practice." J. Lee Nicholson, often called the father of modern cost accounting, also installed in 1899 one of the first known cost systems in this country —in a hat manufacturing company in Danbury, Connecticut.

The trade association movement resulted in various attempts to create uniform cost systems. The first such system was adopted by the printers of the Tri-City system (New York, Philadelphia,

and Boston) in 1907. The United Typothetae of America followed in 1911 and the Steel Founders' Society of America in 1912. Three years later the Federal Trade Commission issued a pamphlet called "Fundamentals of Cost System" which evoked considerable interest. In the following years the Chamber of Commerce of the United States contributed much to the promulgation and the progress of costing methods through the issuance of material on cost accounting. A milestone in the development of cost accounting in this or any other country was reached in October, 1919, when the National Association of Cost Accountants was formed. Its influence in the last quarter of a century has been preponderant and it is generally recognized, here and abroad, that by calling attention to the necessity of controlling business enterprises through the vehicle of cost accounting, especially standard costs and their most valuable adjuncts, flexible or variable budgets, the N. A. C. A. has made a paramount contribution to the development of industrial accounting.

Cost Accounting in Europe

Turning to Europe, we find that, while cost accounting progressed slowly at the beginning of the century, it made considerable strides after the first world war. When speaking of industrial progress of any kind in Europe, it is difficult to generalize. Side by side with highly modern plants utilizing Hollerith or Powers machines, American or English costing systems, and advanced wage incentive plans, one still finds numerous old-fashioned manufacturers clinging to obsolete methods of factory operation and accounting. Since it would not be possible to review in the limited frame of this paper all the countries of Europe, I have chosen to report mainly on England, Germany, and Russia, where up until the war cost accounting had registered the greatest advance.

Great Britain

In dealing with accounting problems or the accounting profession in Europe, it is necessary to differentiate between the British Isles and the Continent, first, because Britain is the birthplace and the classic land of modern accounting, and secondly, because nowhere else in the world has the accounting profession attained such distinction and recognition. In industrial accounting Britain has, if not led, at least kept step with America. We find indeed, besides

pioneer writers on cost accounting such as Cronhelm in 1818 and Strachan and Whittem Hawkins in our time, many early applications of cost systems. Normal burdens, for instance, were used in England as early as 1886 in the Atlas works of John Brown & Co., Ltd.

British Cost Associations

The profession is well organized and grouped in two associations. The oldest, The Institute of Cost and Works Accountants, Ltd. was incorporated in March, 1919, or a few months before the N. A. C. A. came into existence. The main objects of the Institute are:

1. To improve the professional status of cost accountants, by means of examinations to test the skill and knowledge of persons desiring to enter the profession, and to issue qualifying certificates in appropriate cases.
2. To improve the facilities at present available to persons entering the profession for acquiring the necessary training and education.
3. To exercise professional supervision over the members of the Institute, and to frame and establish rules for observance in all matters pertaining to professional practice.
4. To hold conferences and meetings for the discussion of professional subjects, and to collect, collate, and publish information of service or interest to members of the profession.
5. To form a library for the use of members.
6. Generally to do all such lawful things as are incidental or conducive to the attainment of the above objects, or any of them.

Membership, composed of Fellows and Associates, is more exclusive than in our Association. Fellowship, entitling a person to the use of the qualifying letters F.C.W.A., is reserved in principle for practicing accountants only. To be admitted, a candidate has to pass a preliminary, an intermediate, and a final examination covering the following subjects: mathematics, economics, advanced accounting, general business methods and organization, workshop knowledge, labor, materials, costing, and certain law subjects. The Institute publishes a monthly journal, *The Cost Accountant*.

Next to The Institute of Cost and Works Accountants, we find a more recent professional organization, The Society of Incorporated Cost Consultants, Ltd., founded in 1937 in London. The members are professional men engaged in the installation, improvement, and management of costing systems throughout the country. Admission to membership follows upon examination and the obtaining of the Society's diploma. The official organ of the Association is *The Cost Consultant.* The Society assists in the obtaining of partnerships or employment, and its members benefit from a benevolent association.

Both professional organizations have branches throughout Great Britain and maintain complete reference libraries at the disposal of their members. They hold regular local meetings and organize yearly national conventions. Members of the Institute and the Society are not permitted to advertise or circularize for business, this being in accordance with the usual professional etiquette in Britain.

Current Trends in Britain

With regard to current trends in cost accounting, it may be said that in Britain special atention is given today to post-war reconstruction of industries and distributive services which, it is generally admitted, will require drastic technical rationalization. In a series of articles in the *London Times,* Sir George Schuster pointed out that while during the war much technical progress has been made in the enginering industry, other industries have remained stationary. He urges that greater knowledge and research as to costs and profitable prices will be needed to further the progress of rationalization. It is clear that rationalization and standardization of production and distribution must go hand in hand with the rationalization of cost accounting methods.

While in the U.S.A. greater standardization of industry, necessitated by the high cost of labor, has led to an extension of standardized cost accounting, in Britain standardized cost accounting may reversely assist future necessity of greater rationalization and uniformity of production.

An attempt to establish costings on a uniform basis was made after the last war on the recommendation of the then existing Ministry of Reconstruction, but industry paid little attention to the

problem. Today, there are in Britain twelve known associations which have issued uniform costing systems, and some progress has also been made in the distributing trades, thanks greatly to the efforts of the Retail Distributors' Association, which since 1932 has compiled and published annual reports on department store operating costs.

One reason for progress in Britain between the two wars was the transition from independent retailers to multiple stores. The "wholesaler," who used to buy *whole cases* of each product from the manufacturer and then supply *part cases* of a whole range of products to the little retailer, is fast disappearing, and with him the old methods of trading. The big elements today are—

1. Cooperatives, which are big enough to control wheat, meat, tea, sugar, and many other markets.
2. Multiple stores, many of which are grouped in a buying cartel, to compete with the cooperatives.

This has produced huge concerns with modern methods and standardized statistical quantity accounting as distinct from financial accounting.

Yet, despite this evolution, the movement toward uniform costing systems appears to be slow as compared with the United States, where long before the present war it had found a distinguished group of champions in the Department of Commerce, the Federal Trade Commission, the Chamber of Commerce of the U.S.A., and the Department of Justice.

The wartime difficulties encountered in Britain in regard to contract prices and price control in general, the complications arising out of the many types of adjusted-price contracts, such as the "cost-plus percentage" system or "target cost" contract, have clearly indicated the complexity of the problem, a complexity that would not have arisen if contracts had resulted from a competitive market. Considering the pronounced pro-cartel philosophy in Britain, and the growing power of the retail trade associations, it is unlikely that free competition in the sense advocated by our Thurman Arnold will prevail in Britain after the war. The necessity of an exact knowledge of costs will therefore remain even after government control has relaxed or disappeared.

On the Continent

On the continent of Europe, cost accounting has only of late come into its own. Few attempts at rationalization in industry were made before 1920. There was little piecework, and other forms of wage incentives were still considered experimental ventures. The two main reasons for this backward situation were a generally prevailing low wage scale and the ultra-conservative mentality of continental business men. In regard to the first, we know that the application of wage incentives is in direct ratio to standards of living. The higher the standard, the higher the wage scale; the higher the wage scale, the greater the need for labor wage economy. The absence of adequate attention to labor costs entails, of course, an inadequate costing of the whole manufacturing cycle. This was particularly true in most European countries at the beginning of this century and again in the years from 1920 to 1925 in Germany, Austria, Poland, and Russia, after the economic and monetary collapse, which followed the Treaty of Versailles, resulted in financial chaos and disorganized labor. As to the mentality of the European business man, with the exception of a small group of progressive industrialists and a few executives of large international concerns, it certainly was not favorable to the advancement of industrial accounting.

Asked to examine the possibility of installing an elaborate cost system, a European executive would, without fail, consider it in the light of an experiment. Conservative and thrifty, he would see first of all the expense. While he was spending practically nothing on his existing system, he figured that his overhead expenses would undoubtedly be increased by the cost of the proposed system, that was a certainty, whereas the ultimate saving was problematical. To introduce a system, he had to take a chance and invest some money, but being disinclined by nature to do either, he abstained. His excuse was invariably: "My bookkeeping system was good enough for my father, and therefore it should be good enough for me." In this statement, he was not sincere; he knew better. The truth was he felt he could not well afford to take a chance. American business men of the period, on the other hand, had a staggering advantage in that it was inherent in their make-up to take a chance. They tried ideas of "rainbow-chasers"; they made unbelievable ex-

periments, some wise, some foolish, all costly; they built model after model of new time-saving machines without fear of exhausting their vast resources, or losing their one chance of success. That is largely why America soon became the leading industrial nation in the world. In Europe, it was considered dangerous to experiment and especially to emulate American initiatives. Jobs were too scarce, the business field too crowded, the opportunities and resources too limited. Small resources and small chances of recovery made executives timid, and a few unhappy attemps made them both skeptical and cynical. They became fearful of the slow penetration of the so-called "American material civilization."

Progress Made

Curiously enough, during this time universities and technical institutes in practically all European countries included industrial accounting in their regular curriculums. Highly technical and complex methods of cost-keeping were developed but seldom reached further than the narrow confines of textbooks and classrooms. It took years of propaganda by trade associations and the combined efforts of professors, accountants, and engineers, together with the extensive publicity of American efficiency experts, who had established themselves in Europe after the war, to make continental Europe cost conscious. The field of cost accounting, once reserved exclusively for the engineer, who often lacked the necessary economic and accounting background, has now fortunately been taken over, in part at least, by the public accountant, but there are still no professional organizations of cost accountants on the Continent. The task of vulgarization and popularization is carried on by the national associations of accountants, the trade organizations, and various rationalization committees. Exceptionally good work has been done in this direction by the International Institute of Scientific Management in Geneva, an auxiliary of the League of Nations, with branches in several countries, and by similar organizations, such as the "Commission Romande de Rationalisation" in Switzerland, the Standardization Committee in Sweden[1] and the Confédération Générale de Production Française (Confederation of French Manufacturers) in France. Through publications, con-

[1] An excellent study on "Uniform Cost Accounting Principles in Sweden" by Olav Rynell appeared in the *N. A. C. A. Bulletin* of January 15, 1939.

ferences, and participation in the proceedings of national and international conventions of accountants and engineers, the capital importance of modern methods of industrial accounting has finally penetrated the minds of European industrialists. As in England, the movement for the unification of cost terminology and the adoption of uniform cost accounting principles became more and more pronounced in the years preceding the war.

In the Totalitarian States

The greatest effort toward uniformity has been made in the totalitarian states, particularly in Germany and Russia. With the management of industry vested in the State, either through government control or government ownership, it is not surprising that the emphasis placed formerly on financial accounting has gradually diminished, whereas the emphasis on standards, budgetary control, and planning has constantly increased.

Germany

Immediately after the last war the Association of German Engineers, whose members had practically a monopoly in the field of cost accounting, formed a special committee for research and study in cost accounting. Prominent professors, industrialists, and accountants were invited to serve on the committee, which held a series of sessions and heard numerous reports. The result of their labor was published in September, 1920, in a report entitled, "Fundamental Plan of Cost Accounting."[1] The original plan gave main consideration to the machine industry, which had been among the first to apply modern costing methods at the beginning of the century, but it was revised and enlarged several times. The following years were marked by the monetary bankruptcy of Germany, paralyzing the whole economic life of the country. With the advent of National Socialism, Germany's whole legal system underwent a radical change, which had its repercussions on the exercise of the accounting profession. Although nationalization of industry—one of the points in the Nazi Program—was not carried through, the more important branches of industry, already grouped by private or government controlled cartels, became socialized.

[1] "Grundplan der Selbstkostenberechnung," a typewritten translation of which is available at the Library of N. A. C. A., New York.

Private ownership was upheld, but in appearance only, and the extent to which business could make its own decisions narrowed progressively under increasing governmental regulations and restrictions. Like most liberal professions, the accounting profession became concentrated in the hands of Nazi party members, was entirely reorganized, and even given a new name, "Wirtschaftsprüfer" (controllers of economy).

Due to extensive obligatory audits to which big and small business had to submit,[1] the field of these controllers of economy became very vast and their role increasingly important. They appointed various research committees within the profession, one of which was to study the adaptation of the above mentioned "Fundamental Plan of Cost Accounting" to the new economy of the greater Reich. At the International Accounting Convention in Paris in 1937, and at the following International Accounting Congress in Berlin in October, 1938, the German delegates presented two papers on standardized accounting and uniform costing principles which attracted considerable attention. A few months later, the Board of Industrial Economy (Reichsausschuss für Betriebswirtschaft, RfB) published on January 16, 1939, directives entitled, "General Principles of Cost Accounting." A good translation and study of these principles by A. Matz can be found in the June and September, 1940, issues of the American *Accounting Review*.

"Standardized Accountancy in Germany"

Last fall, the British Institute of Economic and Social Research published a paper entitled "Standardized Accountancy in Germany" by Prof. H. W. Singer. Two comprehensive reviews of this paper, which has not yet reached these shores,[2] have appeared in British Accounting Journals.[3] They give a fair idea of the latest attempt made by the present German regime to impose a uniform system of financial and cost accounting on the greater part of the

[1] A detailed description of these controls is to be found in a book issued recently: How Nazi Germany Has Controlled Business, by L. Hamburger (The Brookings Institution).

[2] Since this paper was written, Prof. Singer's book has become available through the Macmillan Co., New York.

[3] "Accountancy" of October, 1943, and "The Cost Accountant," July-September, 1943.

German economic structure. I shall try to summarize these reviews of what is called the greatest experiment ever made in the field of standardized accountancy.

Closely linked with the compulsory organization of industry and business into groups, the basis of the German system is an official "Model Chart of Accounts," uniform for all firms within a section, with a detailed "Plan of Accounts," uniform for each group within a section. The general arrangement is to remain undisturbed in order to safeguard the principle of comparability. It is claimed that the system bridges the gap betwen the academic treatment of accounting problems and its practical application. One of its most interesting features is the attempt to separate the plant as a technical unit from business as a commercial unit by the clear distinction which is drawn between workshop and financial accounting.

The workshop part of the system claims to present a set of figures from which all outside monetary variations are eliminated, with a view to determining *real* costs of production; in other words, it is a method of quantity accounting in terms of fixed monetary units. Adjustment accounts are set up for price variations to effect a reconciliation between the workshop and financial accounts.

As might be expected, the vigorous control of prices and wages imposed in Germany tends to reduce to a minimum the variations in the adjustment accounts. The workshop book entries are kept in the form of a special manufacturing cost sheet which is the most interesting feature of the system. In this document no attempt is made at subdividing individual jobs, but with the six subtotals, and the grand total, this basic sheet requires the analysis and separate return of costs under 49 different headings. Raw materials are, presumably, to be shown on a separate sheet as well as direct wages, as their detailed analysis is not given on the manufacturing cost sheet. The relationship between output and direct labor is also the subject of special analysis.

Objectives Indicated

Some of the main ways in which the standardized systems are used are to be found in the figures which show, separately for each of the production centers, them

a. Ratio between wages and other expenses expressed as a percentage,
b. Number of machine hours worked in each department,
c. Cost per machine per hour,
d. Quantity of output,
e. Total average cost per unit of production,
f. Average direct wage cost per working hour (giving an indication of the type of labor employed), and
g. Degree of utilization of capacity, mainly based on (b).

It is obvious how valuable such detailed information submitted month by month must be for the purposes of labor control, price control, and also the control of the extent to which capacity is utilized. The manufacturing cost sheet as used in Germany has been described as an "indispensable link between bookkeeping and cost accounting."

The first cost accounting directives were approved in August, 1942, and were prepared mainly by the chief accountant of the United Steelworks Trust (Vereinigte Stahlwerke). Both the uniform costing principles and the cost accounting directives were drafted in close consultation with the principal contracting departments, viz., Ministry of Armaments and Munitions, Supply Section of the German High Command, Air Ministry, and State Railways, and were applied to the so-called "Metal Bloc" comprising engineering works, iron and steel foundries, the aircraft industry, the motor and rolling-stock groups, and the optical and scientific instrument makers—all branches of industry closely allied to war production.

The uniform costing principles clearly state that the cost definitions of the model charts are concerned with "real costs" rather than "money costs." They begin with the initial definition, "Costs are measured by the consumption and wear and tear of labor, material, and capital, which are used up in the process of producing commodities and of rendering services; hence costs are not identical and expenditures." For this reason the dissection of costs, particularly the allocation of costs to departments, and of overheads to production units, is regulated in much greater detail than under the standardized accounting regulations.

The foremost purpose of the uniform costing rules is stated in the text of the "Principles" in these words: "The ultimate great aim of the reform of accountancy is the mutual exchange of experience between those responsible for the conduct of affairs in all business undertakings belonging to one industry. This cannot be achieved without a uniform system of cost accounting." Consequently it is the immediate objective of the uniform costing principles and the directives for cost accounting to secure absolute comparability between firms and a comparative analysis of costs on that basis.

Future Effect

This "review of reviews" may not convey a very clear picture of how the German plan will function in practice. More important, however, than the technicalities involved is, in my opinion, the fact that for the firrst time in the history of accounting the application of standardized financial and cost accounting principles has been made *compulsory*. For this reason, if for no other, the experiment extended to most occupied countries will engage the attention of accountants all over the world. With the defeat of the Nazis and the restoration to private ownership of business in continental Europe, the experiment will obviously come to an end, but it will be interesting to see how the plan worked while it lasted. On the other hand, it is not unreasonable to expect that the German lesson in standardized accounting may familiarize many backward accountants in France, Holland, Belgium, and the Balkans with modern costing systems. They may even find it to their advantage to continue after the war the application of some of the advanced methods and principles forced upon them by the Germans. Any gain in this direction would only be a small compensation for the material losses, the sufferings, and the humiliation our European colleagues had to endure under the German yoke.

Russia

Contrary to the Germans, who are attempting to introduce uniform accounting standards for both financial and cost accounting, the Russians are placing the emphasis almost entirely on cost accounting and planning. This is understandable, since the Soviet's economic foundation is "socialist ownership of the implements and

means of production." Individual firms, financed by private capital for private gain, have ceased to exist. All financial resources of the country are owned by the State, which invests them under government control in farms, mines, mills, factories, stores, and any other enterprises and organizations necessary to the economic, social, and political life of the country. It is only natural that under such a regime financial accounting has lost its importance, whereas industrial accounting has been elevated to a science. Planning, in particular, has become the foremost concern of the State and the development of Russia's resources in manpower and raw materials has been carried out relentlessly since 1928 under a series of Five-Year Plans. Every economic unit of the country, from a steel mill employing 15,000 men to a chain grocery store servicing a small community, is working along an annual plan of operation coordinated with a regional plan which, in turn, is integrated in the general plan of the country.

How the Plan Works

Joseph Wurman, a New York C.P.A., wrote an interesting paper on "Cost Accounting and Management in Russia," published in the *N. A. C. A. Bulletin* of February 1, 1931. From this study, which has lost nothing of its technical value, I shall extract and summarize a typical case showing how the plan works in a well-equipped shoe factory employing 7,000 people.

Three months before the end of each operating year, the plant establishes a tentative program of the coming year's activities. The schedule sets forth in great detail the production for the year by classes, categories, styles, and sizes. It estimates the amount of raw materials, auxiliary materials, and other incidental supplies that will go into the manufacture of footwear, based on definite specifications and standards. In regard to both production and materials needed, the plan foresees a distribution of these throughout the year, by quarters, months, and weeks. The schedule then calls for the manpower needed and the various changes in personnel contemplated during the year to secure the timely fulfillment of the plan. Next comes the additional equipment and other items of expansion needed to produce the estimated amount of boots and shoes, as well as to meet the general plan of expansion of the particular plant, in the frame of the general scheme of industrializa-

tion of the country. The plan is then forwarded to a higher authority for approval, revision, and integration in the national plan.

The higher authority, in this case the Leather and Shoe Trust, verifies the plan, checks it with the corresponding plans of other units affecting this shoe plant, such as sources of raw materials, indirect materials and supplies, general policies of the labor department, and contemplated changes in rates or working hours, after which it is approved and sent back to the plant sufficiently in advance of the beginning of the year to be applied in proper time.

The cost accountant plays an important role in the preparation of the preliminary plan by determining the cost of the elements of material, labor, and burden necessary to carry out the planned production. He is guided in his work by basic specifications regarding the operations and elements of production as well as by fixed prices and rates. Thus far, there does not seem to be any striking difference between the Russian and the American method of predetermining costs. The outstanding difference, however, lies in the fact that the factors and figures used in the Russian plan are of an almost fixed nature; they will furnish the actual costs and will not be subjected to fluctuations in prices and labor costs, as might be the case in this country.

Detailed Application

Let us now examine the individual elements entering into production costs and how they are treated.

Raw Materials—The plan calls not only for the amount of material, by classes and prices, but also for their source and their distribution throughout the year. This is quite conceivable if we bear in mind the fact that the supply of materials to the respective manufacturing units is regulated by the trust. The sources of materials thus being assured and the supply regulated, this item becomes more of a fixed character. Prices, probably the most important factor from the accountant's standpoint, are fixed by the trust and hold good, generally, for the entire operating year. Only in rare cases, does the manufacturing plant do any buying aside from the general plan. The very nature of this regulated supply of materials and its absorption in manufacture produces a perpetual inventory, easy to keep and periodically verified by actual stock-taking.

Labor—Standards of output and rates having been definitely set up in advance, labor costs become a fixed and stable factor. Since 1932 manufacturing labor has again been paid on a piecework basis, the psychological incentives developed by the Soviets in the first decade after the Revolution[1] having not given the expected results. Wages, standards of output, and provisions for payment during vacation, absence on civic or jury duties, sickness, pregnancy, etc., are set up each year in a collective agreement between the plant and the labor union of the respective industry, which regulates all employer-employee relations. Labor unions in Soviet Russia are organized by industries rather than by trades. In the case under study, all 7,000 employees, whether in office or plant, and regardless of the kind of work they perform, belong to the leather workers' union.

Burden—The calculation of burden is considerably simpler in a Soviet plant; it is chiefly a manufacturing burden, stripped of two such complicated items as selling overhead and general overhead. This hardly needs any explanation since selling as an individual undertaking has disappeared, making way to a new form of collective distribution of goods in accordance with a general plan.

The purely manufacturing burden and its distribution still remain, and presents about the same problem as in any competitive country. The Soviet accountant allocates it according to directives based on sound economic principles. On the face of it one may think that precisely the same thing is done in this country, but a close examination shows that general financial considerations as well as the competitive market often determine our policy.

Let us assume an unexpected expenditure in the burden class in any given period, which cannot in any way fall in with the usual items. The first impulse of the American accountant is to wipe it out at once, rather than carry it as an artificial deferred charge. But he may be prevented from doing it, for the amortization of such an item may, for instance, interfere with the normal dividends to be declared or may result in a selling price that will turn out to be a "non-selling" price. This cannot happen in a Soviet enterprise. While it has not necessarily a monopoly of a particular product, the

[1] See A. Perren: "Premiums on Salaries in Industrial Enterprises" (Congressional Library, Washington).

enterprise is part of a trust that controls the other manufacturing activities in that district. The local trust, in turn, is subordinated to an all-Russian trust of that industry. The individual enterprise is not confined to its own resources to solve emergencies, but is taken care of by that particular industry as a whole.

Russian Accomplishments

Now for a few general observations. From a predominantly agricultural country with a typical small-shop industry and a few undeveloped key industries under the Tsars, the country has been transformed after years of continuous efforts and tremendous sacrifices into a modern industrial state making full use of the great mechanical, electrical, and chemical achievements of our age. Leading European and American engineers and efficiency experts took part in this industrial revolution, applying freely the latest methods in technology as well as in scientific management and accounting.

Judging from the literature available, there are no indications that the Russians have developed new methods of cost-keeping. Not having to contend with an old system and the opposition of conservative engineers and accountants, they went ahead and applied from the start the latest American methods under the guidance of the Institute of Scientific Management and the Scientific Research Bureau, both located in Moscow. The Research Bureau is attached to the Supreme Economic Council or Ministry of Industry. The Institute, also called Institute of Management Technique, is divided into several sections, one of which is the Department of Accounting. Here a highly qualified staff studies advanced accounting methods, digests foreign literature, and issues books and pamphlets treating with the different phases of industrial accounting. It also solves practical problems submitted by plants in all parts of the country, and acts generally as consulting agency and referee in all accounting matters. A reference library attached to the Department contains most of the standard books on accountancy, and American works figure prominently on its shelves. For many years, little information of any kind has come out of Russia, but once the war is over and normal relations are reestablished between all countries, I have no doubt that we shall hear much about Russian accomplishments in the field of industrial accounting, especially in planning.

Conclusion

Summarizing this necessarily sketchy picture of the development of cost accounting in Europe, we find:

1. In Britain a flourishing and well-organized profession of salaried and public cost accountants.
2. By contrast, no professional associations of cost accountants on the continent of Europe, where the practice of cost accountancy has, until recent years, been a quasi-monopoly of the engineer.
3. A steady advance in industrial accounting in general, thanks to the untiring efforts of schools, trade associations, and various rationalization agencies, who have assumed the task of popularizing modern costing methods.
4. A pronounced trend towards unification of terminology, and the establishment of uniform cost accounting principles and planning. Led by Germany and Russia, where the utilization of standardized accounting principles has become compulsory, the movement extends by force to all occupied countries and may leave its marks for many years to come.

As for the future of the professional cost accountant in Europe, I am inclined to think that his chances have never been brighter. It makes no difference under what political system he lives, the cost accountant has become indispensable. No matter what shape the map of Europe may take after the war, he most assuredly will play an increasingly important role in the reconstruction and rehabilitation of European industry and trade. American participation in the shaping of Europe's post-war economy, which now appears axiomatic, will open wide the door for the propagation throughout industrial Europe of American efficiency and concomitant cost accountancy methods. For this reason, and because accountants in both hemispheres have long exchanged views and learned much from each other, I confidently express the firm belief that after the War there will come into existence an International Association of Cost Accountants.